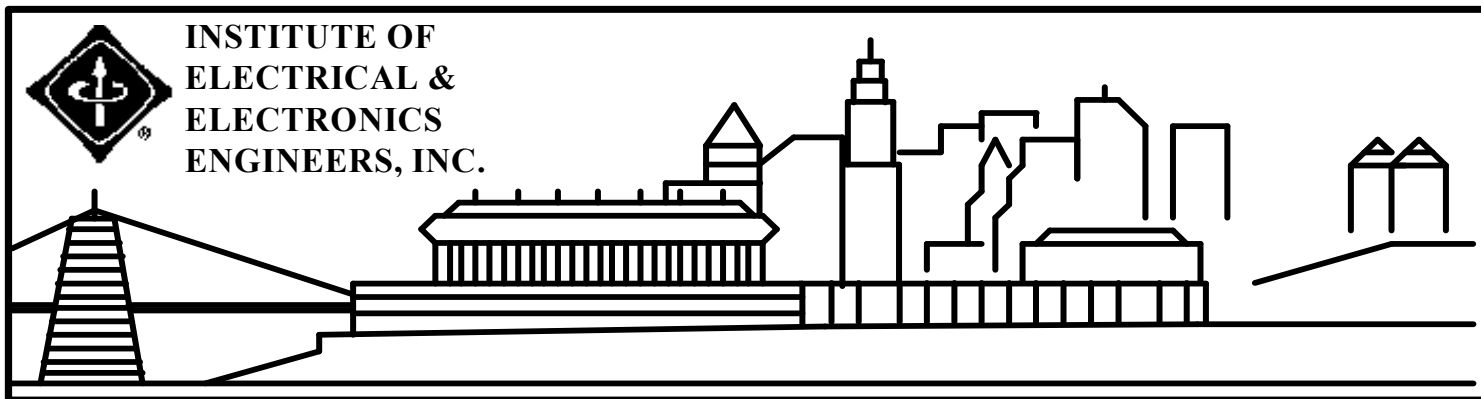




NOVEMBER/DECEMBER 1993

IEEE CINCINNATI SECTION NEWSLETTER

NOVEMBER MEETING INFRARED (THERMAL) IMAGING

DATE: THURSDAY, DECEMBER 9, 1993

PLACE: Institute of Advanced Manufacturing Sciences (IAMS) - Seminar Room A (see map on Page 2)

TIME : 5:30 (Social Time)
6:00 (Dinner)
7:00 (Program)
8:15 (Approx. - Adjourn)

COST: \$7.00 Members
3.00 Students
9.00 Non-Members

Reservations are required for dinner only!
Please call Dee Scott at
385-9446 by NOON, Wed. Dec. 8th

ABOUT THE PRESENTATION

Lee Bogart and Greg Leonard of Cincinnati Electronics Corp. (CE) will explain and demonstrate Infrared (IR) imaging. The primary focus of the talk will be IR imaging and its many applications in industry. The technology inside the imagers will also be explained and demonstrated.

The Detector and Microcircuit Devices Laboratories (DMDL) business unit of CE is one of the world's leading suppliers of Indium Antimonide infrared detectors for use in heat seeking missiles, IR radio-meters and spectrometers, and thermal imaging cameras. CE has been manufacturing infrared detectors since the 1950's.

BACKGROUND OF THE SPEAKERS

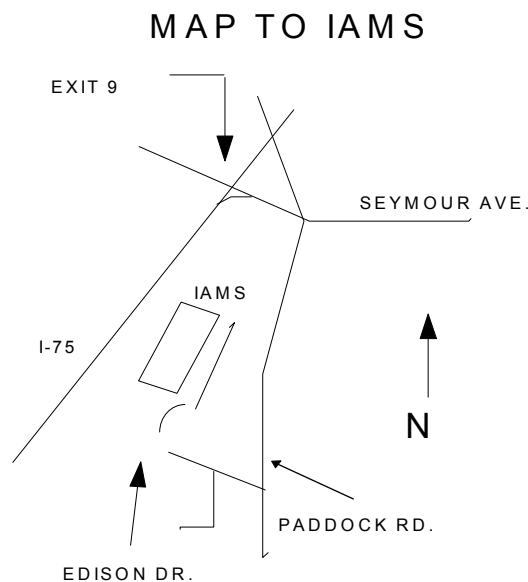
Lee Bogart has been in the infrared business for the past 15 years in various capacities. In the late 1970's, he helped with the design and prototyping of the first generation of IR cameras and in the early 1980's was liaison between manufacturing and engineering to establish the product line and test procedure.

From 1983 to 1987, he served as applications manager for IR products worldwide. From 1987 to October 1993, he was a manufacturer's representative for a number of companies including CE. In Oct. 1993, he joined CE as Eastern Regional Sales Manager and applications engineer.

Greg Leonard has been in the infrared business for the past eleven years, primarily in the radiometry analysis and system design of IR missiles.

In the early 1980's, he conducted field measurements to assess the vulnerability of aircraft to IR missiles and designed countermeasure schemes & hardware. In the late 1980's, he was a project engineer for IR missile system requirements and modeling. He also conducted field performance tests.

In 1990, he joined CE as a DMDL Marketing Manager for detector products and IR imagers.



CHAIRMAN'S MESSAGE

by Jim Everly

Last month's meeting by Mr. James Phillips of the Akron Section was well attended by both students and regular section members. Mr. Phillips emphasized the importance of the IEEE in establishing "Your Professional Edge" for meeting the challenges and uncertainties of the 1990's. His presentation was directed toward students, but was well received by a more diverse audience. I was particularly impressed by Mr. Phillips' sincere enthusiasm

and concern for IEEE student members, and his national involvement in junior high school math and science education. His presentation was excellent and generated many independent discussion groups after the meeting. CONGRATULATIONS AND A SINCERE THANKS to Mr. James Phillips for a job well done.

This month our meeting is on December 9, 1993, in the Seminar A room at IAMS. The meeting features Lee Bogart and Greg Leonard of Cincinnati Electronics. The technical discussion will focus on infrared imaging and its many applications in industry. The technology of current imagers will be explained and demonstrated. Cincinnati Electronics is one of the world's leading suppliers of Indium Antimonide detectors and has been active in infrared manufacturing since the 1950's. This should be an interesting technical meeting especially if you enjoy technology demonstrations.

Please note that a ballot is enclosed with this month's newsletter. This is an opportunity to choose the individuals that will lead out IEEE Cincinnati Section in 1994. PLEASE BE SURE TO VOTE; THIS IS YOUR ORGANIZATION. As always, your comments and suggestions are greatly appreciated.

AM RADIO BROADCASTING

By Dick Reiman, Historian

Radio Broadcasting ranks with electricity, the telephone, the automobile and indoor plumbing for its impact on American life. Radio broadcasting brought a new excitement to engineers, a chance for profitable opportunity to entrepreneurs, a new medium for educators, and a glamorous outlet for talented performers. It proved to be an endless source of news and entertainment for the radio listener. It was also FREE and brought right into the home. Later, with the advent of television, a young boy was asked to compare radio to television. He responded "I like radio, because the picture is better." Indeed, the distant voices and music fired the imagination and seemed to be alive to the listener. AM broadcasting has prospered for seven decades since its beginning in the 1920's and continues to prosper in spite of competition from television.

The attraction of radio broadcasting as a business and communication medium was so great that the number of stations increased from a few to 700 shortly after the first broadcasts in 1920, to 1000 by 1940, and by almost 1000 per decade until the number reached 5000 in 1988. In the 1920's, anarchy prevailed until an effective way of dealing with interference between broadcasting stations occurred with the establishment in 1927 of the Federal Radio Commission (FRC). The FRC had the authority to assign power and frequency to the broadcasting stations. In 1934, the Federal Communications Commission was established to replace the FRC. The FCC improved the method of frequency assignment and also regulated programming. The introduction of the directional antenna in the late 1930's further permitted more broadcasting stations to coexist on the same channel with a tolerable level of interference.

Prior to and during World War II, the networks dominated broadcasting, and network time sales (advertising) were 40 percent compared to 30 percent for local sales. With television as competition in 1947, network advertisers shifted to television, and radio became mainly local advertising. Radio was able to survive due to technological which reduced costs. Broadcasting equipment became simpler and more reliable, permitting reduction of technical staff. Introduction of magnetic tape and long playing records allowed stations to switch from live to recorded programs.

New control equipment made it possible for one or two people to announce, play recordings, put commercials on the air, and to adjust signal levels. Stations also reduced casts by specializing in themes such as "Country" or "Classical". The advances in receiver technology such as miniaturization of receivers, the shift from vacuum tubes to transistors, lowering power levels and increasing the availability of portable and car radios, created a new audience in automobiles away from the home. Innovative programming formats were developed to appeal to listeners away from their television sets.

**WELCOME TO NEW IEEE MEMBERS AND
CURRENT IEEE MEMBERS WHO HAVE MOVED INTO OUR SECTION**

The following individuals are new IEEE members in the Cincinnati Section:

Steven A. Holzheimer	Gary W. Lance	John R. Owen
Gregory A. Hughes	John S. Macmaduke	Dharmesh A. Patel
Sean B. Lafferty	Thomas R. Miller	Frank Valdes

The following IEEE members have moved into the Cincinnati Section:

Thomas H. Conrad	Deanna K. Jones	Harry B. Rowe
James E. Ellis	Mitchell E. Kick	Vivek Saxena
J. H. Grimm	Christopher J. Kandra	Peter N. Schannen III
Stephen G. Hazeltine	John J. Miller	Jiande Wu
Noman H. Qadri		

WINTER QUARTER COURSE AT UC

The ECE Department of the University of Cincinnati will be offering a course in Manufacturing Production Processes, Integrated Digital Control, Quality Technologies, and Intelligent Systems. The course will present the process design and control of materials through finished product production systems employing contemporary analysis and axiomatic methods to achieve minimum variability performance. The course will be taught by Dr. Patrick Garrett of the ECE Department. Additional information can be obtained by calling (513) 556-4751.

**IEEE 1994 CINCINNATI SECTION BALLOT
Election of Officers for Term
Beginning 1/1/94 and Ending 12/31/94**

CHAIRMAN

☐ Jim Everly	☐ Write - In
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VICE - CHAIRMAN

☐ Steve Olenick	☐ Write - In
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SECRETARY

☐ Mark Reineck	☐ Write - In
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TREASURER

☐ Orest Melnyk	☐ Write - In
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MEMBER - AT - LARGE

☐ Bill Lohner	☐ Write - In
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Please vote for only one candidate in each office. Resumes of each candidate can be found on the Page 6 of this newsletter. Please return the ballot by:

JANUARY 1, 1994

Also, be sure to sign the front of the envelope and put your IEEE membership number below your name.

Mail the ballots to:

Jim Everly
8048 Pleasure Drive
West Chester, Ohio 45069

RESUMES OF CANDIDATES

CHAIRMAN (JIM EVERLY)

BSEE and MSEE, Ohio State University; Currently Associate Professor of Electrical Engineering Technology, University of Cincinnati; Department Head of EET at UC 1985 to Spring, 1990; Prior Employment as Manager of Signal Processing/Simulation, Calspan Corp., Dayton, Ohio. and Manager, Systems Analysis Group, Cincinnati Electronics, Cincinnati, Ohio; Member Eta Kappa Nu and ASEE; IEEE Cincinnati Section Vice Chairman 1992 and Secretary 1991.

VICE-CHAIRMAN (STEVE OLENICK)

BSEE 1972, Youngstown State University; MSEE 1976, Fairleigh Dickinson University; Graduate courses at NJIT; Product Line Manager, Cincinnati Electronics Corp.; Member of AFCEA and the IEEE; Organized Professional Development Seminars for the Fort Monmouth AFCEA Chapter; Published/Presented at MILCOM 86 and TCC 92; One Patent; Prior employments include CMC Electronics, ITT Avionics and the U. S. Army CENCOMS lab.

SECRETARY (MARK REINECK)

Mark has worked in factory and warehouse automation since 1981 for Tipnis, Inc., The G. A. Gray Co., The Buschman Co., and most recently Automation Software Consultants, Inc. ASCI, founded by Mark in 1989, provides industrial control software and packaged local area networking tools. Mark received a BSEET from the University of Cincinnati College of Applied Science, and has served on the Executive Committee of the Cincinnati chapter of the IEEE since 1991.

TREASURER (OREST MELNYK)

BSEE 1980 and MBA (Finance) 1985, University of Cincinnati; Manager Network Planning, Cincinnati Bell, ESC Board Member; Past position as IEEE Cincinnati Section Chairman, Vice-Chairman, Member-at-Large, Treasurer (Incumbent), Arrangements Chairman, Programs Chairman.

VICE-CHAIRMAN (BILL LOHNER)

BSEE, University of Cincinnati, 1955; Retired from Cincinnati Gas & Electric as Section Head, Subsystems Engineering; Worked at CG&E 41 years; Past Chairman, Vice-Chairman, Secretary plus other Section Offices; Editor of Section Newsletter for the past 10 years; Member of Executive Committee.

Dee Scott (call for meeting reservations)	385-9446
Jim Everly - Chairman	777-7129 (Home)
	556-4224 (Fax)
	556-4241 (Office)
Bill Lohner - Vice Chairman	385-7268
Orest Melnyk - Treasurer	397-9212
Steve Olenick - Secretary	573-6555
Bob Morrison - Editor	287-3697 (Office), 287-3698 (Fax)

NOVEMBER/DECEMBER 1993

IEEE CINCINNATI SECTION NEWSLETTER



**The Institute of Electrical and
Electronics Engineers, Inc.
c/o Dee Scott
5654 Cheviot Rd. Suite #9
Cincinnati, OH 45247**

DATED MATERIAL
Please deliver promptly